

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims to the application.

1. (Currently Amended) A method of decoding MPEG data comprising a plurality of macroblocks, each macroblock comprising a header and block layer data, said method comprising:

receiving a plurality of rows of the MPEG data, each row comprising the plurality of macroblocks;

decoding the header of at least one macroblock using a first processing element [processor]; and

decoding the block layer data of said at least one macroblock using a second processing element [variable length decoder], the second processing element [variable length decoder] being different [separate] from the first processing element [processor];

wherein decoding the header comprises decoding the header of a first macroblock on a first one of the plurality of rows while concurrently decoding the block layer data of a second macroblock on a second one of the plurality of rows.

Claim 2 is cancelled without prejudice.

3. (Currently Amended) The method of claim [2] 1, further comprising providing the block layer data of the first macroblock to the second processing element [variable length decoder] after decoding the header of the first macroblock.

4. (Previously Presented) The method of claim 1 wherein at least one of decoding the header and decoding the block layer data comprises variable length decoding.

5. (Currently Amended) The method of claim 1 [2], wherein receiving a plurality of rows of the MPEG data comprises receiving the plurality of rows of the MPEG data from memory.

6. (Currently Amended) The method of claim 1 [2], wherein receiving a plurality of rows of the MPEG data comprises receiving HDTV video data.

7. (Previously Presented) A method of decoding MPEG data comprising a plurality of macroblocks, each macroblock comprising a header and block layer data, said method comprising:

decoding the header of at least one macroblock using a first processing element;

decoding the block layer data of said at least one macroblock using a second processing element;

decoding the header of at least one other macroblock using a third processing element concurrently with decoding of the header of said at least one macroblock using the first processing element; and

decoding the block layer data of said at least one other macroblock using a fourth processing element concurrently with decoding of the block layer data of said at least one macroblock using the second processing element.

8. (Currently Amended) An MPEG decoding system for decoding MPEG data comprising a plurality of macroblocks, each macroblock comprising a header and block layer data, said system comprising:

a processor for decoding the header of at least one macroblock; and

a variable length decoder for decoding the block layer data of said at least one macroblock, the variable length decoder being separate from the processor; and

wherein the MPEG data is organized into a plurality of rows, each row comprising the plurality of macroblocks, and wherein the processor decodes the header of a first macroblock on a first one of the plurality of rows, while the variable length decoder concurrently decodes the block layer data of a second macroblock on a second one of the plurality of rows.

Claim 9 is cancelled without prejudice.

10. (Previously Presented) The MPEG decoding system of claim 8, wherein the system is implemented on an integrated circuit chip.

11. (Previously Presented) The MPEG decoding system of claim [9] 8, wherein the MPEG data comprises MPEG-2 video data and each row comprises at least one SLICE comprising the macroblocks.

12. (Previously Presented) The MPEG decoding system of claim 8, further comprising a switch wherein the processor

decodes the header of said at least one macroblock and the switch provides the block layer data of said at least one macroblock to the variable length decoder for decoding.

13. (Previously Presented) The MPEG decoding system of claim 11 wherein the first macroblock is from a first SLICE and the second macroblock is from a second SLICE.

14. (Previously Presented) An MPEG decoding system for decoding MPEG data comprising a plurality of macroblocks, each macroblock comprising a header and block layer data, said system comprising:

- a first processing element for decoding the header of at least one macroblock;

- a second processing element for decoding the block layer data of said at least one macroblock;

- a third processing element for decoding the header of at least one other macroblock concurrently with decoding the header of said at least one macroblock using the first processing element; and

- a fourth processing element for decoding the block layer data of said at least one other macroblock concurrently with decoding the block layer data of said at least one macroblock using the second processing element.

Claim 15 is cancelled without prejudice.

16. (Previously Presented) The MPEG decoding system of claim 8, further comprising a video decoding engine for reading the MPEG data from memory and providing the MPEG data to the processor.

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17. (Previously Presented) The MPEG decoding system of claim 8 wherein the MPEG data comprises at least one HDTV video data.

Claims 18-20 are cancelled without prejudice.